SPEC® CINT2006 Result

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IBM Corporation

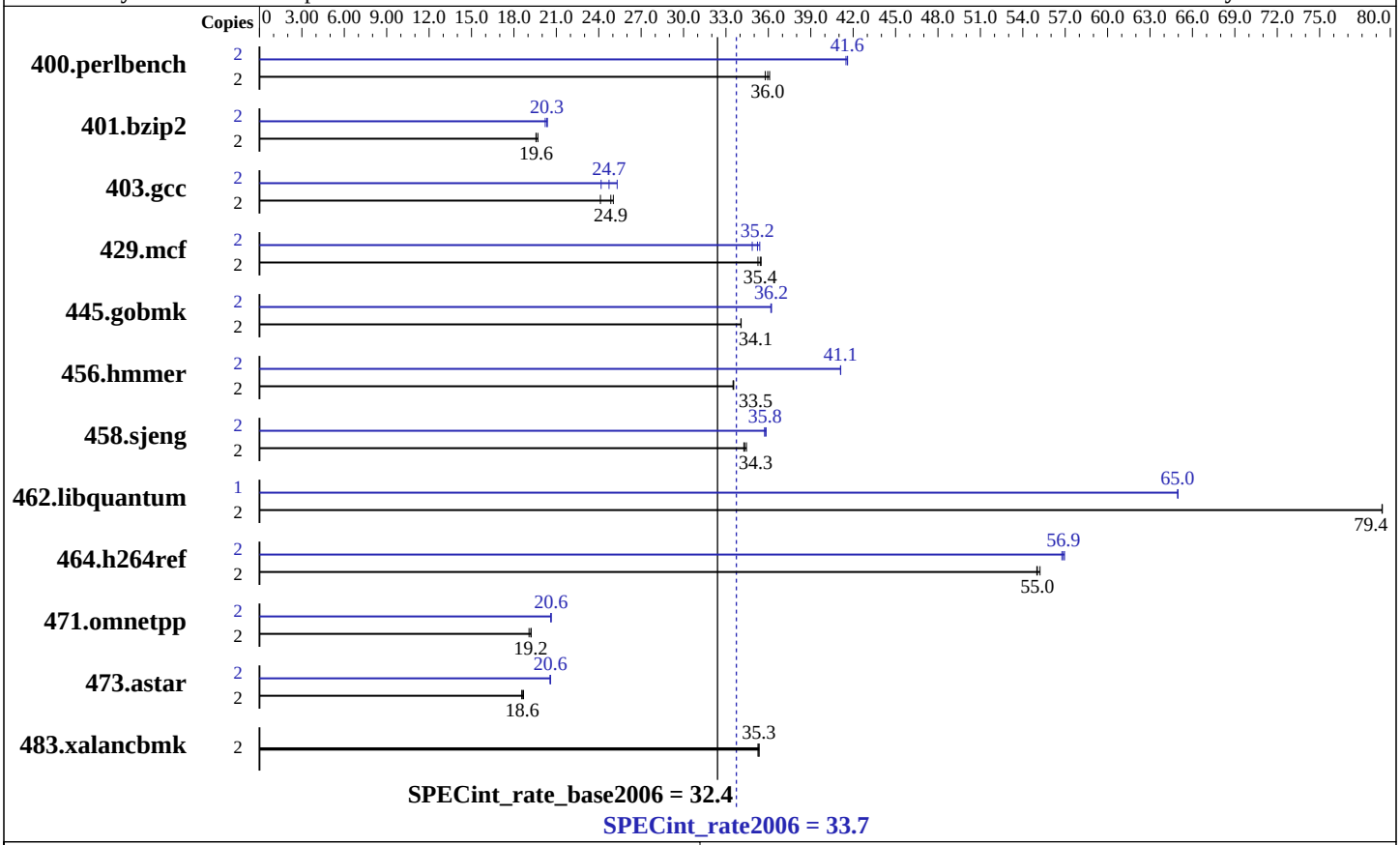
IBM System x3200 M2 (Intel Pentium E5300)

SPECint®_rate2006 = 33.7

SPECint_rate_base2006 = 32.4

CPU2006 license: 11
Test sponsor: IBM Corporation
Tested by: IBM Corporation

Test date: Jun-2009
Hardware Availability: Apr-2009
Software Availability: Nov-2008



Hardware

CPU Name:	Intel Pentium E5300
CPU Characteristics:	800 MHz system bus
CPU MHz:	2600
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
CPU(s) orderable:	1 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	2 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	8 GB(4 x 2 GB DDR2-6400E ECC)
Disk Subsystem:	1 x 250 GB SATA, 7200RPM
Other Hardware:	None

Software

Operating System:	SuSE Linux Enterprise Server 10(x86_64) SP1, Kernel 2.6.16.46-0.12-smp
Compiler:	Intel C++ Compiler 11.0 for Linux Build 20080930 Package ID: l_cproc_p_11.0.066
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V8.1 Binutils 2.18.50.0.7.20080502

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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	2	**544**	**36.0**	546	35.8	541	36.1	2	470	41.6	471	41.5	**470**	**41.6**
401.bzip2	2	**986**	**19.6**	987	19.6	980	19.7	2	955	20.2	**949**	**20.3**	948	20.4
403.gcc	2	643	25.0	668	24.1	**648**	**24.9**	2	666	24.2	636	25.3	**651**	**24.7**
429.mcf	2	517	35.3	**515**	**35.4**	514	35.5	2	**518**	**35.2**	515	35.4	523	34.9
445.gobmk	2	616	34.1	**616**	**34.1**	616	34.1	2	**580**	**36.2**	579	36.2	580	36.2
456.hmmer	2	557	33.5	556	33.5	**557**	**33.5**	2	**454**	**41.1**	454	41.1	454	41.1
458.sjeng	2	**705**	**34.3**	702	34.5	706	34.3	2	675	35.8	**677**	**35.8**	677	35.7
462.libquantum	2	522	79.4	522	79.4	**522**	**79.4**	1	**319**	**65.0**	319	65.0	319	65.0
464.h264ref	2	802	55.2	**804**	**55.0**	805	55.0	2	777	57.0	780	56.8	**778**	**56.9**
471.omnetpp	2	**651**	**19.2**	651	19.2	656	19.1	2	**606**	**20.6**	606	20.6	607	20.6
473.astar	2	**755**	**18.6**	752	18.7	757	18.6	2	683	20.6	**682**	**20.6**	682	20.6
483.xalancbmk	2	390	35.3	**391**	**35.3**	391	35.3	2	390	35.3	**391**	**35.3**	391	35.3

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

```
The config file option 'submit' was used.
```

General Notes

```
taskset was used to bind processes to cores except
for 462.libquantum peak
Hardware Sector Prefetch Enable and Adjacent Sector Prefetch Enable
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to "physical,0"
KMP_STACKSIZE set to 64M
```

Base Compiler Invocation

C benchmarks:
`icc`

C++ benchmarks:
`icpc`

Base Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`

Continued on next page

Base Portability Flags (Continued)

462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xSSSE3 -ipo -O3 -no-prec-div -static -inline-calloc
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:
-xSSSE3 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/spec/cpu2006.1.1/lib -lsmartheap

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc

401.bzip2: /opt/intel/Compiler/11.0/066/bin/intel64/icc

456.hmmer: /opt/intel/Compiler/11.0/066/bin/intel64/icc

C++ benchmarks:
icpc

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSSE3 -ipo -O3 -no-prec-div -static -ansi-alias -opt-prefetch`

401.bzip2: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias`

403.gcc: `-xSSSE3 -ipo -O3 -no-prec-div -static -inline-calloc -opt-malloc-options=3`

429.mcf: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch`

445.gobmk: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSSE3 -O2 -ipo -no-prec-div -ansi-alias`

456.hmmer: `-xSSSE3 -ipo -O3 -no-prec-div -static -unroll2 -ansi-alias`

458.sjeng: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSSE3 -ipo -O3 -no-prec-div -static -unroll4`

462.libquantum: `-xSSSE3 -ipo -O3 -no-prec-div -static -opt-malloc-options=3 -parallel -par-runtime-control -opt-prefetch`

464.h264ref: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSSE3 -ipo -O3 -no-prec-div -static -unroll2 -ansi-alias`

C++ benchmarks:

471.omnetpp: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSSE3 -ipo -O3 -no-prec-div -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap`

473.astar: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSSE3 -ipo -O3 -no-prec-div -ansi-alias -opt-ra-region-strategy=routine -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap`

483.xalancbmk: `basepeak = yes`

Peak Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090902.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090902.xml

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